U.S. EPA New England, Region 1

# Record of Decision

For Operable Unit 8

Abandoned Bladder Tank Fuel Storage Area

Naval Air Station South Weymouth

Federal Facility Superfund Site

Weymouth, Massachusetts

May 2, 2003

# Record of Decision
# for Operable Unit 8
# Abandoned Bladder Tank Fuel Storage Area
# Naval Air Station South Weymouth
# Weymouth, Massachusetts

Contract No. N62472-92-D-1296
Contract Task Order No. 0098


Department of the Navy
Engineering Field Activity Northeast
Naval Facilities Engineering Command
10 Industrial Highway
Mail Stop No. 82
Lester, Pennsylvania 19113-2090

March 2003
FINAL
29600.98.3710

PART 1—DECLARATION

I. SITE NAME AND LOCATION
II. STATEMENT OF BASIS AND PURPOSE
III. DESCRIPTION OF THE SELECTED DECISION
IV. STATUTORY DETERMINATIONS
V. AUTHORIZING SIGNATURES

PART 2—DECISION SUMMARY

I. SITE NAME, LOCATION, AND DESCRIPTION
II. SITE HISTORY AND ENFORCEMENT ACTIVITIES
III. COMMUNITY PARTICIPATION
IV. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION
V. SITE CHARACTERISTICS
VI. CURRENT AND POTENTIAL FUTURE SITE RESOURCE USES
VII. SUMMARY OF POTENTIAL SITE RISKS
VIII. DOCUMENTATION OF NO SIGNIFICANT CHANGES
IX. STATE ROLE

PART 3—RESPONSIVENESS SUMMARY

I. STAKEHOLDER ISSUES AND NAVY RESPONSES
II. TECHNICAL AND LEGAL ISSUES
III. COMMENT RESPONSES

APPENDIX A: MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION LETTER OF CONCURRENCE
APPENDIX B: REFERENCES
APPENDIX C: GLOSSARY
APPENDIX D: ADMINISTRATIVE RECORD INDEX
APPENDIX E: E.1 PUBLIC COMMENTS ON THE PROPOSED PLAN FOR THE ABANDONED BLADDER TANK FUEL STORAGE AREA
E.2 TRANSCRIPT OF PUBLIC HEARING ON THE PROPOSED PLAN FOR THE ABANDONED BLADDER TANK FUEL STORAGE AREA

# PART 1—DECLARATION

## I. SITE NAME AND LOCATION

Naval Air Station South Weymouth
1134 Main Street
Weymouth, Massachusetts 02190
MA2170022022
Operable Unit 8 – Abandoned Bladder Tank Fuel Storage Area (ABTFSA)

Appendices provided herein include: Appendix A – Massachusetts Department of Environmental Protection Letter of Concurrence, Appendix B – References, Appendix C – Glossary, Appendix D – Administrative Record Index, Appendix E.1 – Public Comments on the Proposed Plan for the ABTFSA, and Appendix E.2 – Transcript of Public Hearing on the Proposed Plan for the ABTFSA.

## II. STATEMENT OF BASIS AND PURPOSE

This decision document presents the No Action decision for Operable Unit 8 (OU-8), the ABTFSA, at the Naval Air Station (NAS) South Weymouth, Weymouth, Massachusetts, which was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 USC § 9601 *et seq.*, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300 *et seq.*, as amended. The regulatory program performed under the context of these combined laws and regulations is commonly referred to as "Superfund."

This decision is based on the Administrative Record, which has been developed in accordance with Section 113(k) of CERCLA, and which is available for review at the Navy's northeastern office, Engineering Field Activity Northeast (EFANE), in Lester, Pennsylvania. Public information repositories are also kept at the Tufts Library in Weymouth, Massachusetts; the Abington Public Library in Abington, Massachusetts; the Hingham Public Library in Hingham, Massachusetts; the Rockland Memorial Library in Rockland, Massachusetts; and the Department of the U.S. Navy Caretaker Site Office (CSO) in Weymouth, Massachusetts. The Administrative Record Index (Appendix D) identifies each of the items comprising the Administrative Record upon which the selection of this decision is based.

This decision had been selected by the U.S. Environmental Protection Agency (EPA) and the Navy. The Massachusetts Department of Environmental Protection (MADEP) concurs with the No Action decision (Appendix A).

## III. DESCRIPTION OF THE SELECTED DECISION

This Record of Decision (ROD) sets forth the No Action decision for OU-8, the ABTFSA, at NAS South Weymouth.

Based upon the completed investigations, the sampling results were generally consistent with background levels. There is no documentation or evidence from the investigations of any past fuel releases at the site. No unacceptable risks were identified for humans being exposed to environmental media at the ABTFSA except for a slight risk to hypothetical future residents consuming aluminum and manganese from site groundwater; however, the presence of aluminum and manganese in groundwater is consistent with regional conditions, and the calculated risks do not exceed risks associated with background concentrations. No significant ecological risks were identified at the site.

OU-8, the ABTFSA, is one of several operable units currently on record at NAS South Weymouth. The ABTFSA has been addressed independently from the rest of NAS South Weymouth so that the Navy can proceed with closure of this site as soon as it has met the requirements of the Superfund process. Because of the No Action decision, the signing of this ROD by the Navy and EPA Region 1 will indicate the completion of the Superfund process for the ABTFSA. The No Action decision for the ABTFSA is not expected to have any impact on the strategy or progress for the rest of the sites at NAS South Weymouth.

## IV. STATUTORY DETERMINATIONS

No cleanup action is necessary at the ABTFSA under CERCLA to ensure protection of human health and the environment. No additional actions, investigations, monitoring, or 5-year reviews will be required.

## V. AUTHORIZING SIGNATURES

This ROD documents that No Action is necessary to ensure protection of human health and the environment for OU-8, the ABTFSA, at the former NAS South Weymouth. This decision was selected by the Navy and EPA, with concurrence by MADEP.

Concur and recommended for immediate implementation:

U.S. Department of the Navy

By: _____ Date: 5/1/03

*BRAC Environmental Coordinator*
*Caretaker Site Office*
*NAS South Weymouth*
*U.S. Navy*

By: _____ Date: 4/24/03

*Director, Environmental Restoration Division*
*Engineering Field Activity Northeast*
*Naval Facilities Engineering Command*
*U.S. Navy*

U.S. Environmental Protection Agency, Region 1

By: _____ Date: May 2, 2003

*Director, Office of Site Remediation and Restoration*
*Region 1 – New England*
*U.S. EPA*

# PART 2—DECISION SUMMARY

## I. SITE NAME, LOCATION, AND DESCRIPTION

NAS South Weymouth was placed on the National Priorities List (NPL) in May 1994 by EPA pursuant to CERCLA. NAS South Weymouth is owned by the U.S. Government, and was operated by the Department of the Navy. It is located primarily in the Town of Weymouth, Massachusetts (Figure 2-1). Portions of NAS South Weymouth extend into the adjacent Towns of Abington and Rockland, Massachusetts. NAS South Weymouth was developed during the 1940s for dirigible aircraft used to patrol the North Atlantic during World War II. The facility was closed at the end of the war and reopened in 1953 as a Naval Air Station for aviation training. NAS South Weymouth was in continuous use since that time until it was operationally closed on 30 September 1996 and administratively closed on 30 September 1997. The Department of the Navy is the lead agency, and EPA is the support agency, for CERCLA activities at NAS South Weymouth. The U.S. Department of Defense is the sole source of cleanup funding for the property. There are several operable units within the NAS South Weymouth NPL site (MA2170022022) that the Navy is addressing under CERCLA. This ROD relates to the ABTFSA, which has been designated as OU-8.

The ABTFSA is a 0.46-acre parcel located adjacent to an aircraft taxiway and parking apron in the northwest portion of the Base (Figure 2-2). The site is currently comprised of relatively flat grassland and forested wetland. Drainage channels are located to the east and south of the site. Wetlands abut the site to the north and are also within the drainage channels. The bladder tanks and their earthen berms have been removed. The only structures currently remaining from site operation are pole-mounted lighting rods (Figure 2-3) and a small, concrete footbridge that crosses the drainage ditch by the aircraft hangar apron.

A more complete description of the ABTFSA can be found in Section 3 of the Phase II Remedial Investigation (RI) Report (Tetra Tech NUS 2002).

## II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

### A. Site History

From approximately 1982/1983 to 1987, the ABTFSA site was used for the temporary storage of JP-5 aviation gasoline. The fuel was stored in four mobile 10,000-gal fabric bladders (tanks) contained within earthen berms. The tanks were used to support "hot refueling" aircraft training operations held on the adjacent hangar apron. According to Navy personnel, no more than two tanks were filled at any time during the training exercises. During operation, portable manifold piping was connected to the bladder tanks and the fuel was dispensed to U.S. Marine A4 jets and Huey helicopters on the concrete hangar apron located to the south of the site. The tanks have since been removed and the area has been filled and graded.

## B. History of Site Investigations

Previous investigations and the enforcement activities at the ABTFSA are summarized below:

- **Installation Restoration (IR) Program, 1983**—In response to the growing awareness of the potential effects of hazardous materials on human health and the environment, the Department of Defense developed the IR Program to investigate and clean up potential problem areas created by past events at federal facilities.

- **Preliminary Assessment (PA) (Argonne National Laboratory 1988)**—The PA included a records search, interviews, and a site walkover. The purpose of the PA was to identify and evaluate past waste practices at NAS South Weymouth and assess the associated potential for environmental contamination. As a result of the PA, five sites, including the ABTFSA (due to its history of fuel-related operations), were recommended for further study.

- **Site Inspection (SI) (Baker Environmental, Inc. 1991)**—The SI included site walkovers; geophysical surveys; installation of groundwater monitoring wells; and the collection of soil, sediment, surface water, and groundwater samples at eight sites on the NAS South Weymouth property. The intent of the SI was for "screening" purposes to assess the potential for contaminant migration, provide data for Hazard Ranking System scoring, and to provide the information necessary to develop a comprehensive work plan for further study. The SI recommended that six of eight sites, including the ABTFSA, be considered for further study.

- **Phase I RI (Brown and Root Environmental 1996)**—The Phase I RI included a literature search; geophysical and soil vapor surveys; immunoassay testing; ecological assessment; test pit excavation; monitoring well and piezometer installation; hydraulic conductivity testing; groundwater and stream gauging; and sampling of soil, sediment, surface water, and groundwater. The Phase I RI concluded that additional investigation was necessary at seven sites, including the ABTFSA.

- **Phase II RI (Tetra Tech NUS 2002)**—The Phase II RI was conducted to address data gaps from the Phase I RI and previous investigations to further verify the lack of hazardous substances and associated potential risks. The Phase II RI included further sampling of soil, groundwater, surface water, and sediment, as well as human health and ecological risk assessments. Results of the Phase II RI indicated that the chemicals detected at the ABTFSA were consistent with site background levels and do not pose unacceptable risks to human health or the environment. Accordingly, the risk assessments showed that cleanup of environmental media was not warranted at the ABTFSA to protect human health or the environment.

A more detailed description of the site history can be found in Sections 1.0 and 2.0 of the Phase II RI Report (Tetra Tech NUS 2002).

### C. History of CERCLA Enforcement Activities

In May 1994, NAS South Weymouth was listed on EPA's NPL, indicating that the NAS South Weymouth property was a priority for environmental investigation and cleanup. The Navy has conducted environmental studies and activities at NAS South Weymouth in accordance with CERCLA and the NCP. Based on the designation of NAS South Weymouth property as an NPL site, a Federal Facility Agreement was executed by the Navy and EPA, which became effective in April 2000. This agreement establishes the Navy as the lead agency for the investigation and cleanup of designated sites within NAS South Weymouth property, with EPA providing oversight. The MADEP is not party to the Federal Facility Agreement. In accordance with CERCLA and the NCP, MADEP has participated in ongoing discussions and strategy sessions, as well as to provide oversight and guidance through their review of IR Program documents. A Site Management Plan (SMP) with task schedules and deliverables is updated annually each June, and is published in October by the Navy. The SMP, which serves as a management tool for planning, reviewing, and setting priorities for environmental investigative and remedial response activities to be conducted at NAS South Weymouth, was completed in 1999, and is updated annually. The SMP is available for review at the Navy's EFANE office in Lester, Pennsylvania; Tufts Library in Weymouth, Massachusetts; Abington Public Library in Abington, Massachusetts; Hingham Public Library in Hingham, Massachusetts; Rockland Memorial Library in Rockland, Massachusetts; and the Department of the Navy CSO in Weymouth, Massachusetts.

## III. COMMUNITY PARTICIPATION

The Navy has worked to keep the community involved throughout the investigation process. The Navy has kept the community and other interested parties apprised of site activities through informational meetings, fact sheets, press releases, public meetings, and regular contact with local officials. Also, the Navy meets on a regular basis to discuss the status and progress of the IR Program with the Restoration Advisory Board (RAB), which includes representatives from the neighboring communities. Representatives from the Navy, EPA Region 1, MADEP, and local government have attended the public meetings and hearings. Below is a brief chronology of public outreach efforts:

- In September 1995, the Navy initiated a series of public meetings, at which the RAB process was explained and community members were asked to join the RAB. A sufficient number of volunteers were assembled and RAB meetings began in March 1996. Since that time, RAB meetings have been held on a monthly basis to keep the RAB and local community informed of the IR Program progress.

- The Navy published a legal notice of the Proposed Plan for the ABTFSA in the *Patriot Ledger* and the *Boston Globe* on 5 October 2002. Local community calendars and cable

stations were notified of the meeting date for the public information session and public hearing. The Navy distributed copies of the Proposed Plan to a mailing list of approximately 400 community members. In addition, the Navy made the Proposed Plan available to the public at the Tufts Library in Weymouth, Massachusetts; Abington Public Library in Abington, Massachusetts; Hingham Public Library in Hingham, Massachusetts; Rockland Memorial Library in Rockland, Massachusetts; Department of the Navy CSO in Weymouth, Massachusetts; and the Navy's public website for environmental activities at the former NAS South Weymouth (http://weymouthnas.eaest.com).

- From 5 October until 4 November 2002, the Navy offered the Proposed Plan for public comment, in accordance with the requirements of the NCP and the SMP developed for the NAS South Weymouth Superfund program. No written comments were received during this public comment period.

- On 10 October 2002, the Navy held an informational meeting to present the Navy's Proposed Plan to a broader community audience than had already been involved at the site. At this meeting, representatives from the Navy discussed the Proposed Plan and answered questions from the public. In addition, the Navy held a public hearing to accept oral comments on the Proposed Plan. A transcript of comments received at the public hearing is included as Appendix E.2.

- The Navy has provided responses to comments received at the public hearing in the Responsiveness Summary, which is included in Part 3 of this ROD.

In addition, the Navy is providing an index of the Administrative Record available for public review at the Navy's EFANE office in Lester, Pennsylvania. Information repositories have also been established at several locations. Currently, information is available at the Tufts Library in Weymouth, Massachusetts; the Abington Public Library in Abington, Massachusetts; the Hingham Public Library in Hingham, Massachusetts; the Rockland Memorial Library in Rockland, Massachusetts; and the Department of the Navy CSO, Weymouth, Massachusetts. The Administrative Record Index is included as Appendix D.

## IV. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

OU-8 is one of several operable units at NAS South Weymouth (Table 2-1). Each operable unit at NAS South Weymouth progresses through the CERCLA cleanup process independent of one another.

The ROD for the ABTFSA is one component of the Superfund program at NAS South Weymouth. It has proceeded on an independent track to enable the Navy to expedite site closure and property transfer. The signing of this ROD by the Navy and EPA Region 1 will indicate the completion of the Superfund process for the ABTFSA. No additional actions or investigations of the ABTFSA are required under CERCLA, and the site may be returned to the communities for

unrestricted exposure and unlimited use. The selected No Action decision for OU-8 is not expected to have an impact on the strategy or progress for the remaining sites at NAS South Weymouth. Additional details on the strategy and schedule for the remediation of the other CERCLA sites at NAS South Weymouth are available in the SMP (November 2001, with updated schedule from October 2002).

## V. SITE CHARACTERISTICS

The ABTFSA is located in the northwest portion of the Base, east of Runway 17-35 (Figure 2-2). The ABTFSA was used from approximately 1982/1983 until it was closed in 1987 for the temporary storage of JP-5 aviation fuel used to support "hot refueling" training operations at the nearby hangar. The site consisted of four 10,000-gal fabric bladder tanks kept within earthen berms. According to Navy personnel, no more than two tanks were filled at any time during the training exercises. During operation, portable manifold piping was connected to the bladder tanks and the fuel was dispensed to U.S. Marine A4 jets and Huey helicopters on the concrete hangar apron located to the south of the site.

The area of the ABTFSA is approximately 20,000 $ft^2$ (0.46 acres). After operations at the ABTFSA ceased, the area was filled and graded. The current topography is relatively flat. The site is currently comprised of relatively flat grassland and forested wetland. Drainage channels are located to the east and south of the site. Flow from the drainage channels converges at a point southwest of the site where it is then piped south under the hangar apron and runways and discharges in the "TACAN" (Tactical Air Navigation) area in the southern portion of the Base. Wetlands abut the ABTFSA to the north and are also present within the drainage channels.

During the 1996 and 1999 field programs for the Phase I and Phase II RI reports, respectively, the Navy collected surface soil, subsurface soil, sediment, groundwater, and surface water samples from the ABTFSA. Analyses included a focus on types of chemicals associated with aviation gasoline and past site operations. The analytical program included volatile organic compounds, semivolatile organic compounds, pesticides, polychlorinated biphenyls, and inorganics. Figure 2-4 depicts the sample locations. In general, the detected analytes in site samples were consistent with background conditions. The RI also included an assessment for the presence of light non-aqueous phase liquid (LNAPL). No LNAPL was found.

The results of the risk assessment are presented in Section VII, Summary of Potential Site Risks.

## VI. CURRENT AND POTENTIAL FUTURE SITE RESOURCE USES

The ABTFSA has not been used since 1987. Under current use of the former NAS South Weymouth, there are no regular activities occurring at the ABTFSA; therefore, there is limited potential for current worker exposure. Human activity is limited to possible brush clearing or grass cutting during summer months. NAS South Weymouth is operationally closed, and access to the Base is generally controlled by fencing, vehicle gates, and administrative staff. However,

based on the proximity to roads that are open to the public, the ABTFSA has been identified as having the potential for exposure by trespassers.

Specific land re-use plans are currently being discussed as of this writing. The zoning for redevelopment of the Base, including the ABTFSA property, has been set in the document *Zoning and Land Use By-Laws for the Naval Air Station South Weymouth* which was approved and adopted by the townships of Weymouth, Abington, and Rockland in March 1998. Accordingly, the future use of the property containing the ABTFSA is zoned as "open space." The open space zoning is intended for the preservation of large, contiguous wetland areas and open space for park land, active and passive recreation, reservations, community gardens, rivers and streams, and similar uses. The zoning may also encompass such interests as watershed and flood protection, preservation of wildlife habitat, and conservation of recreational land. No residential re-use is permitted under this zoning. Changes to the zoning would require approval from the three townships (Weymouth, Abington, and Rockland).

Groundwater beneath the site is not part of the Potentially Productive Aquifer zones designated at NAS South Weymouth. Therefore, site groundwater is not considered to be a Potential Drinking Water Source Area.

As summarized in Section VII, the conditions at the site are suitable for unrestricted exposure and unlimited use.

## VII. SUMMARY OF POTENTIAL SITE RISKS

A baseline risk assessment was performed as part of the Phase II RI to estimate the probability and magnitude of potential adverse human health and environmental (ecological) effects from exposure to the site assuming no remedial action was taken. Should unacceptable risks be determined, it provides the basis for taking action and identifies the contaminants and exposure pathways that need to be addressed by the remedial action. Based on the lack of unacceptable risks, remedial action is not necessary as discussed below in the human health and ecological summaries of the baseline risk assessment.

### A. Human Health Risk Assessment

A baseline human health risk assessment (HHRA) was completed as part of the Phase II RI (Tetra Tech NUS 2002) to estimate the probability and magnitude of potential adverse human health effects from exposure to chemicals of concern (COCs) associated with soils, groundwater, surface water, and sediment at the ABTFSA, assuming no remedial action was taken.

The HHRA, which supports the No Action decision, followed a 4-step process: (1) contaminant identification that identified those hazardous substances which, given the specifics of the site, were of potential concern; (2) exposure assessment that identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure; (3) toxicity assessment that considered the types and magnitude of adverse

health effects associated with exposure to hazardous substances; and (4) risk characterization that integrated the three earlier steps to summarize the potential and actual risks posed by hazardous substances at the site, including carcinogenic and non-carcinogenic risks.

The HHRA was conducted in accordance with regional and federal EPA guidance and was approved by EPA Region I (Tetra Tech NUS 2002). The results of the HHRA were used to determine that no risks calculated for receptors at the site exceeded EPA's benchmarks for acceptable cancer or non-cancer risks at the ABTFSA, except those related to background concentrations of manganese and aluminum in groundwater.

Chemicals of potential concern (COPCs) were determined in the screening assessment portion of the HHRA based on frequency of detection, toxicity, concentration, and mobility and persistence in the environment. As a conservative measure, EPA Region III risk-based concentrations (RBCs) for residential soil were employed for the screening analysis for both soil and sediment. EPA Region III RBCs for residential tap water were employed for the screening analysis for groundwater. Water Quality Criteria (WQC) were employed for the screening analysis for surface water, except for those analytes without WQC, for which tap water RBCs were used. The results of this screening are shown in Tables 6-1 through 6-3 of the Phase II RI report (Tetra Tech NUS 2002).

Conceptual Site Model

Potential human health effects associated with COPCs were estimated quantitatively through the development of several hypothetical exposure pathways. These pathways were developed to reflect the potential for exposure to COPCs based on the present uses, potential future uses, and location of the site. A conceptual site model (CSM) depicts these pathways and is provided in Figure 2-5. Specific sources of COPCs, release mechanisms, exposure pathways to receptors, and site-specific factors have been presented in the Phase II RI report (Tetra Tech NUS 2002). Human health risks were calculated for exposures to COPCs identified in all media at the site. The following receptor scenarios were evaluated: industrial (construction worker, full-time employee), residential (adult, child), trespasser, and child recreational user. Exposure pathways included incidental ingestion of soil, dermal contact with soil, and inhalation of soil particulate; incidental ingestion of and dermal contact with sediments; incidental ingestion and dermal contact with surface water; inhalation of volatiles while showering with groundwater; and ingestion of groundwater. Specific pathways evaluated for each receptor are delineated in the CSM (Figure 2-5). Risks were calculated using reasonable maximum exposure (RME) assumptions. These pathways were developed to reflect the potential for exposure to hazardous substances based on the present use, potential future uses, and location of the site. Tables 6-17 through 6-20 of the Phase II RI show a summary of the COPCs and exposure point concentrations used to evaluate the RME scenario. Exposure assumptions are presented in Tables 6-11 through 6-16 of the Phase II RI.

Excess lifetime cancer risks were determined for each exposure pathway by multiplying a daily intake level with the chemical-specific cancer potency factor. Cancer potency factors have been

developed by EPA from epidemiological or animal studies to reflect a conservative "upper bound" of the risk posed by potentially carcinogenic compounds. That is, true risk is unlikely to be greater than the risk predicted. The resulting risk estimates are expressed in scientific notation as a probability (e.g., $1 \times 10^{-6}$ for 1/1,000,000) and indicate (using this example) that an average individual is not likely to have greater than a one in a million chance of developing cancer over a 70-year lifetime as a result of site-related exposure (as defined) to the compound at the stated concentration.

EPA's generally acceptable risk range for site-related exposure is from $10^{-4}$ to $10^{-6}$. Current EPA practice considers carcinogenic risks to be additive when assessing exposure to a mixture of hazardous substances.

In assessing the potential for adverse effects other than cancer, a hazard quotient is calculated by dividing the daily intake level by the reference dose or other suitable benchmark. Reference doses have been developed by EPA, and they represent a level to which an individual may be exposed that is not expected to result in any deleterious effect. Reference doses are derived from epidemiological or animal studies and incorporate uncertainty factors to ensure that adverse health effects will not occur. A hazard quotient less than one indicates that a receptor's dose of a single chemical is less than the reference dose, and that toxic non-carcinogenic effects from that chemical are unlikely. The hazard index (HI) is generated by adding the hazard quotients for all COPCs that affect the same target organ (e.g., liver) within or across all media to which a given individual may reasonably be exposed. An HI less than one indicates that toxic non-carcinogenic effects are not likely.

Human Health Risk Assessment Results

Risk results are presented in Tables 6-23 through 6-51 of the Phase II RI (Tetra Tech NUS 2002) for all receptors across all media of concern at the site. Table 2-2 summarizes the human health risk assessment results for current and potential future use corresponding to the RME scenario at the ABTFSA. The results of the risk assessment conducted to evaluate potential human health risks resulting from potential exposures at the ABTFSA indicate:

- Cumulative non-cancer HIs were less than EPA's risk target of HI = 1.0 for all receptors except residents. Manganese is the only COC with an HI exceeding 1.0. However, manganese concentrations in groundwater at the site reflect regional background conditions, and as such, do not require remediation. It is not EPA's policy to require remediation of sites to concentrations that are less than background. The cumulative HI calculated for residents ingesting groundwater containing manganese at background concentrations at the site under RME assumptions was 6.6. Aluminum resulted in a cumulative HI of 0.31 at the site, which is well below EPA's risk target. Further, the site is not located within a potential drinking water source area.

- Cumulative cancer risk estimates for all receptors were below or within EPA's "acceptable risk range" of $10^{-6}$ to $10^{-4}$. No COCs were determined for the site. Therefore, there are no

concerns for potential risks from exposure to carcinogens in any medium at the site, and no remediation is necessary to be protective of human health.

### B. Ecological Risk Assessment

In addition to the human health risk assessment described above, the Navy also completed an ecological risk assessment for the site. The ecological risk assessment evaluated potential risks to ecological receptors that may occur in the presence of chemical stressors in environmental media. The ecological risk assessment was completed in three steps: (1) problem formulation, (2) risk analysis, and (3) risk characterization.

As shown in Table 2-3, a total of 13 inorganics, 3 pesticides, 5 volatile organic compounds, and 14 semi-volatile organic compounds were identified as COPCs in surface soil, sediment, and surface water. The ecological receptor groups evaluated included terrestrial vertebrates (e.g., small mammals, birds), terrestrial invertebrates (e.g., earthworms), and terrestrial plants (e.g., ruderal growth vegetation such as weeds and early successional species). The ecological exposure pathways evaluated included direct contact with and/or ingestion of surface soil by terrestrial invertebrates; direct contact with surface soil by terrestrial plants; wildlife ingestion of food items that are potentially contaminated as a result of accumulation of constituents from surface soil; and incidental ingestion of surface soil by wildlife. In addition, risks to wetland vertebrates (fish), and aquatic and benthic invertebrates were also assessed. Direct exposure to and consumption of sediment and surface water were examined for these receptors. The exposure pathways used in the ecological risk assessment are presented in Table 2-4. The CSM is also depicted in Figure 2-6.

The results of the ecological risk assessment indicated that the conditions at the site pose no significant risks to ecological receptors. Although there was a slight statistical exceedance of a toxicity test for aquatic invertebrates in the adjacent drainage channels, that risk was minimal and does not require action. Other ecological measurements and calculations did not reveal the presence of COCs at the site that would result in excess ecological risks. Refer to Section 7.0 of the Phase II RI (Tetra Tech NUS 2002) for a more comprehensive ecological risk summary.

In summary, the risk assessments did not identify potential human health or ecological risks (i.e., risks to the environment) associated with the ABTFSA in excess of regulatory thresholds.

## VIII. DOCUMENTATION OF NO SIGNIFICANT CHANGES

The Navy presented a Proposed Plan for No Action on 5 October 2002. The Navy reviewed the comments submitted during the public comment period (Appendixes E.1 and E.2). As summarized in the Responsiveness Summary (Part 3), it was determined that no significant changes to the decision, as originally identified in the Proposed Plan, were necessary. Therefore, No Action will be implemented at the ABTFSA.

## IX. STATE ROLE

MADEP concurs with the Navy's and EPA's No Action decision for OU-8 at NAS South Weymouth (see Appendix A).

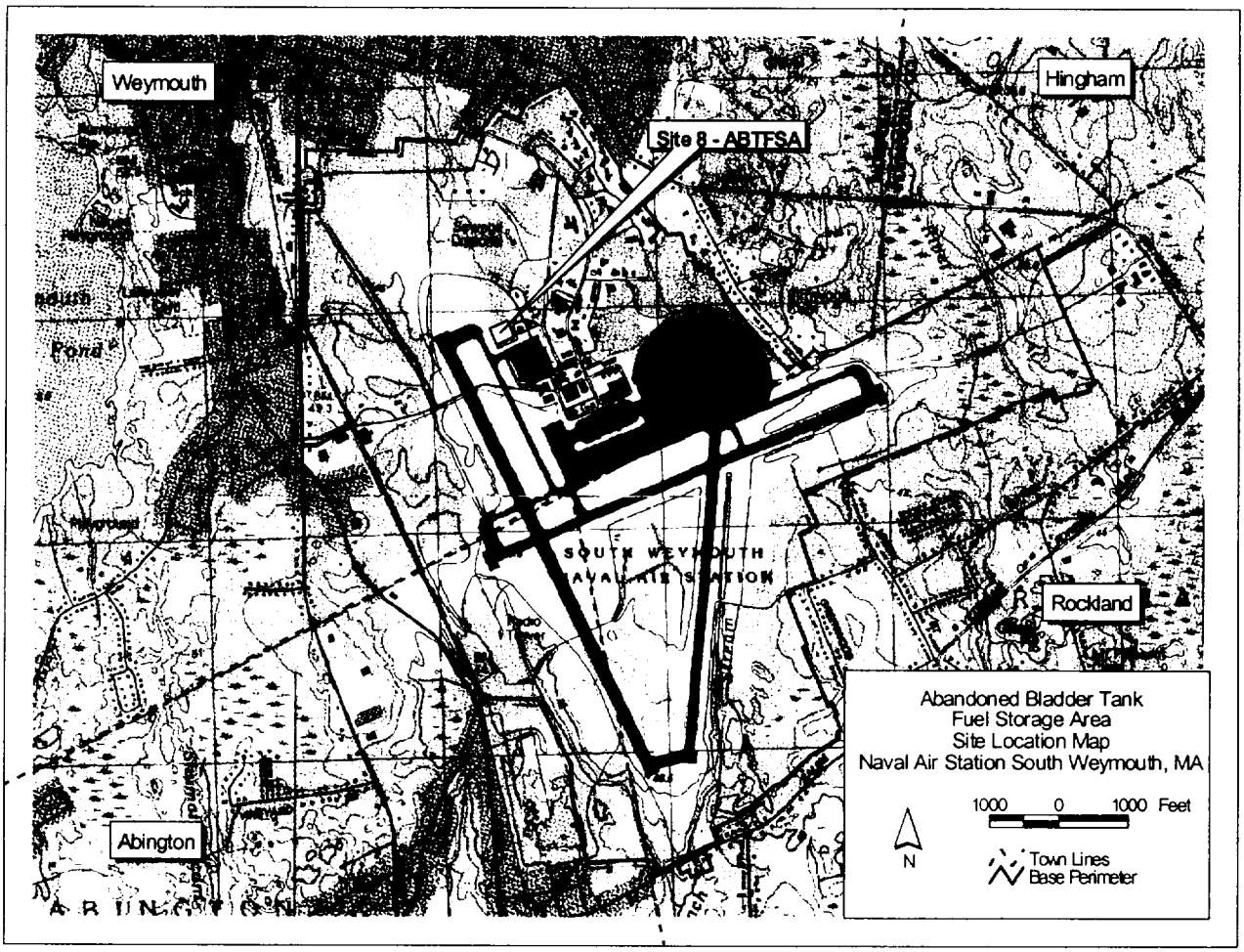



Figure 2-1. Site location map.

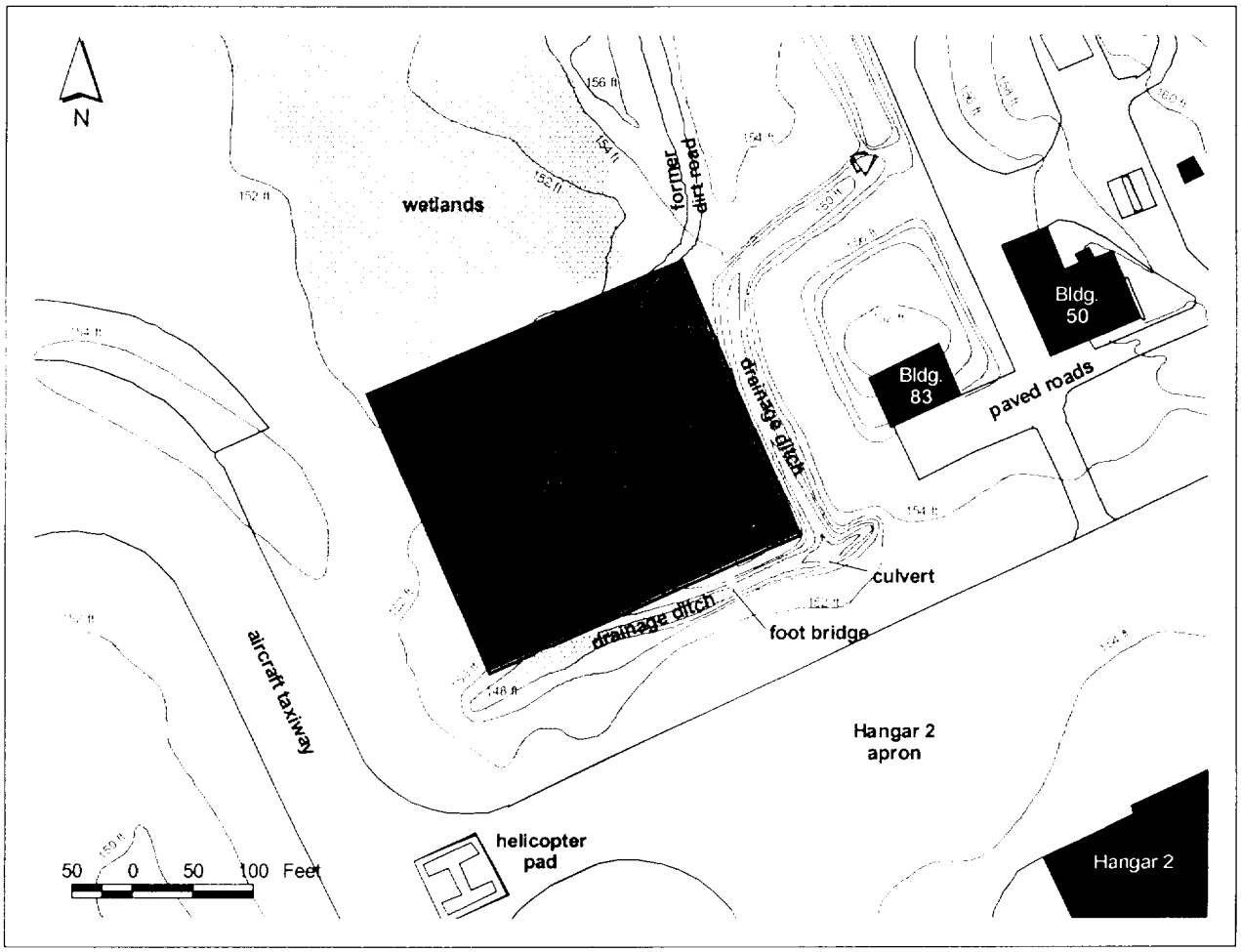



Figure 2-2. Site map of the abandoned bladder tank fuel storage area.

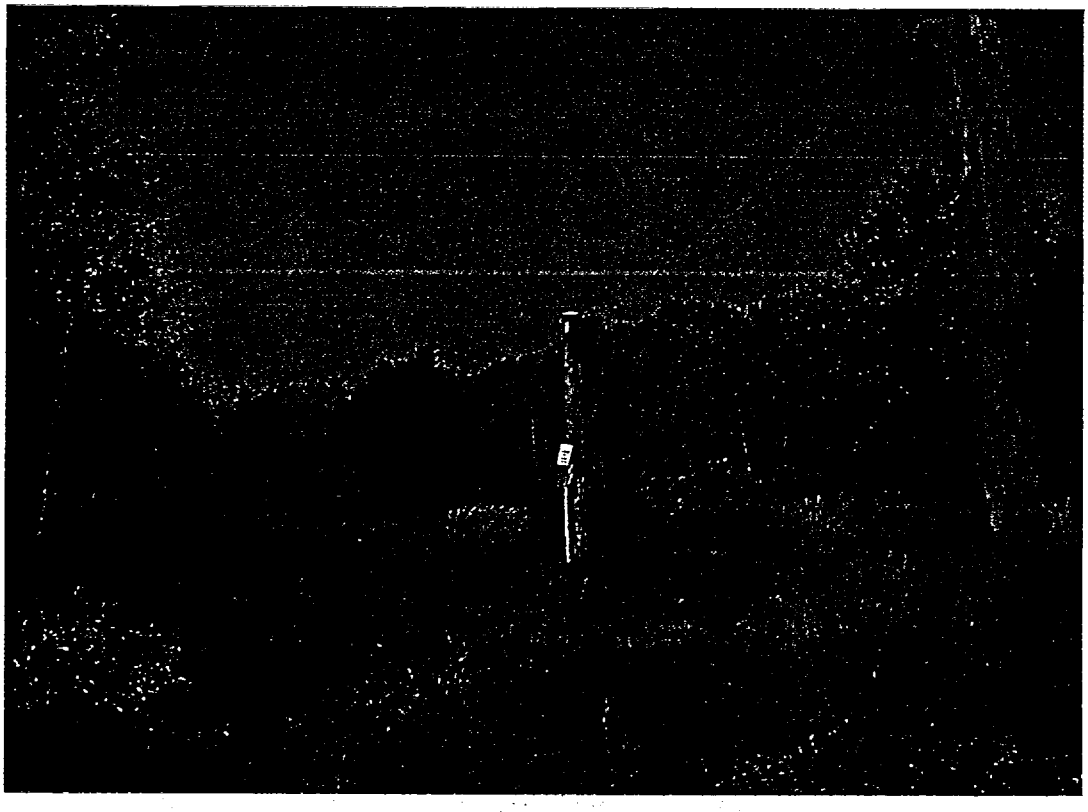


Figure 2-3. Site photograph – north view, 1 October 2002.

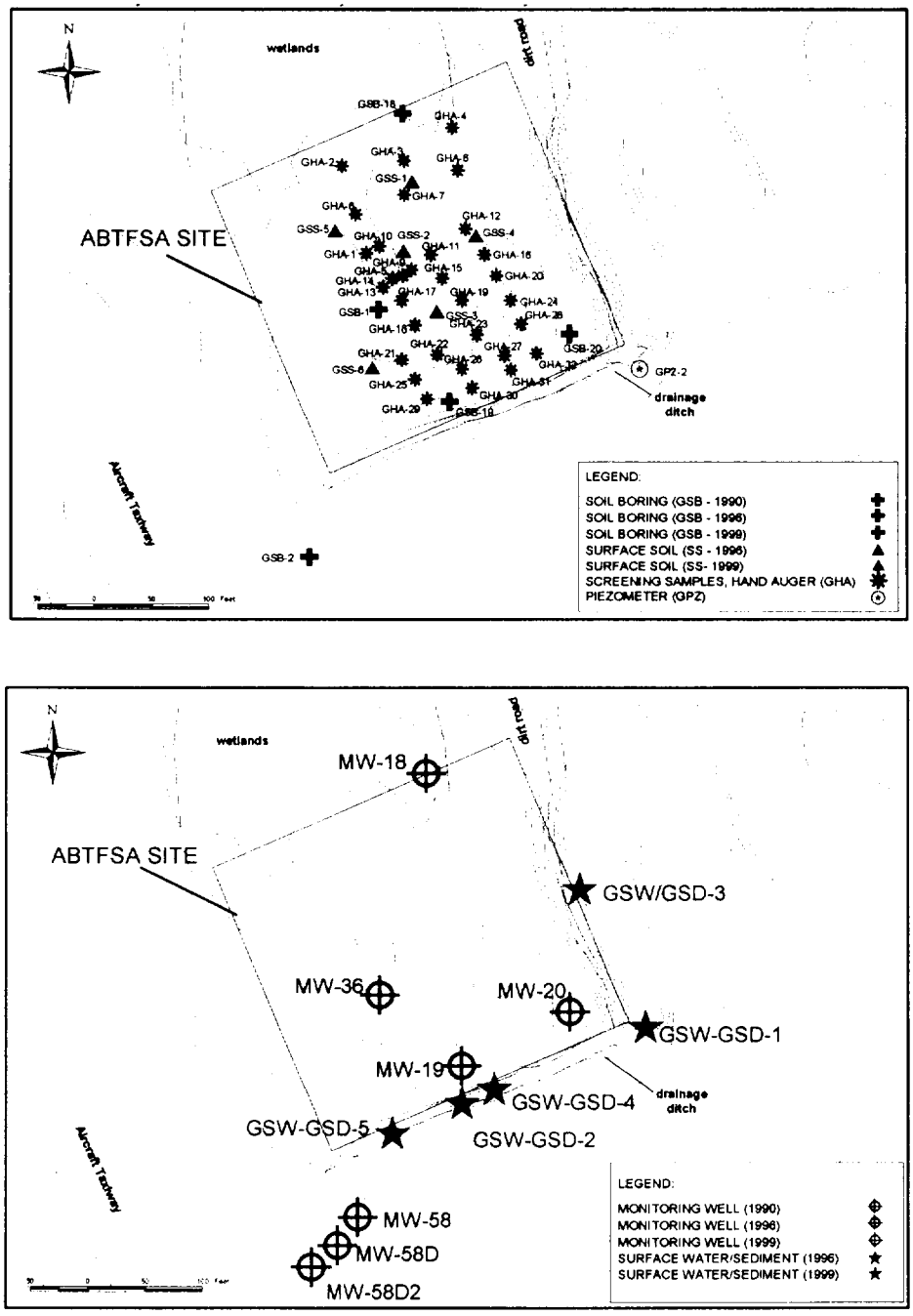



Figure 2-4. Sample location maps.

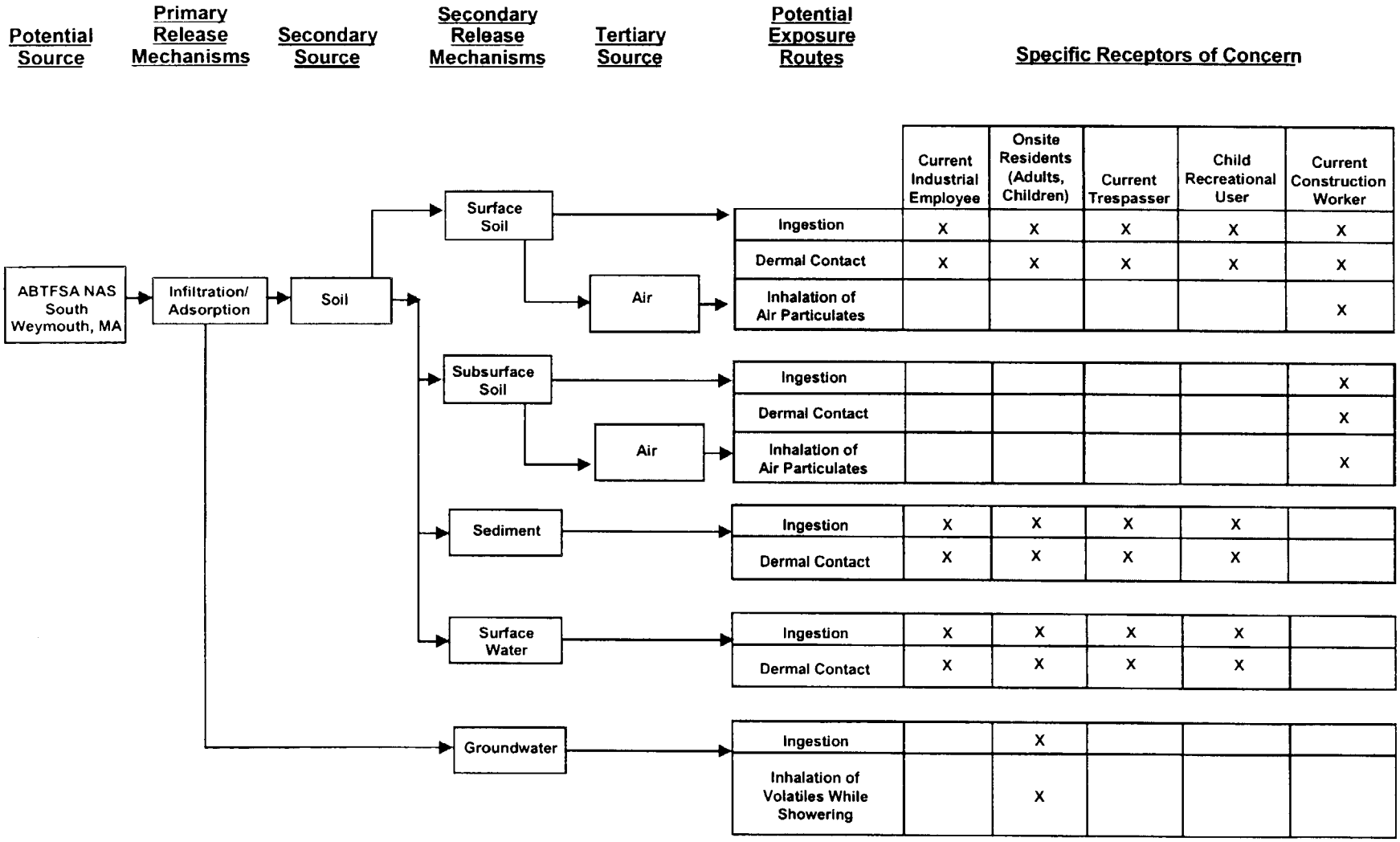



Figure 2-5. Human health conceptual site model.

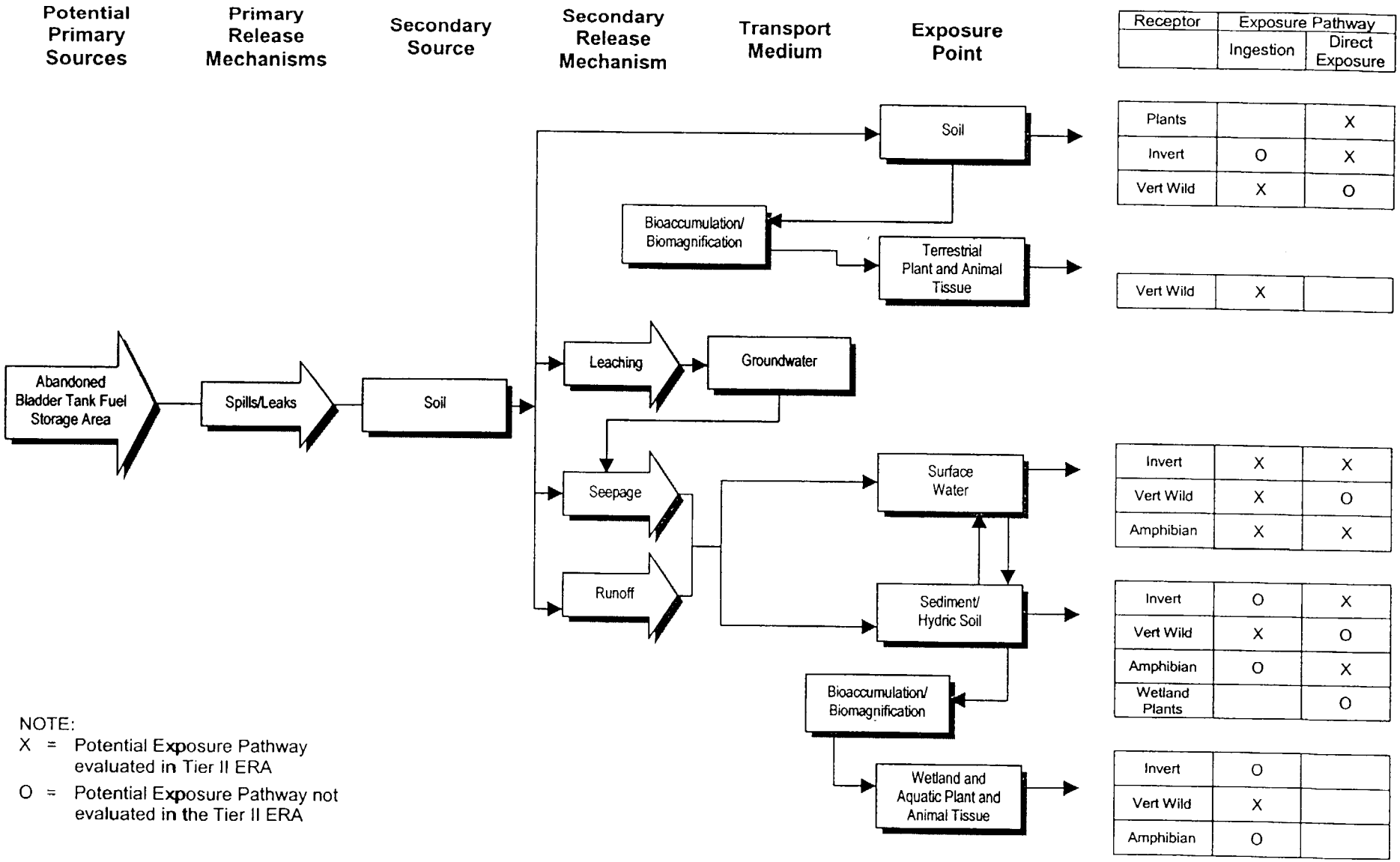



Figure 2-6. Ecological risk assessment conceptual site model.

TABLE 2-1 SUMMARY OF OPERABLE UNITS

| Site | IR Program Site Designation | Operable Unit Designation | Site Abbreviation | Site Description | Regulatory Status (as of March 2003) |
|---|---|---|---|---|---|
| West Gate Landfill | 1 | 1 | WGL | Disposal area used for a variety of construction and demolition debris, municipal, and other waste materials. | PA, SI, RI, and FS completed. PRAP is being prepared. |
| Rubble Disposal Area (Upland) | 2 | 2 | RDA | Disposal area used for primarily building demolition debris. | PA, SI, RI, and FS completed. Ongoing public comment period on the PRAP. |
| Small Landfill | 3 | 3 | SL | Disposal area used primarily for concrete, metal, and wood. | PA, SI, RI, PRAP, and ROD (No Action with groundwater monitoring) completed. Monitoring program near completion. |
| Fire Fighting Training Area | 4 | 4 | FFTA | Area designated for dispensing fuels for igniting and extinguishing fires. | PA, SI, and RI completed. No FS required. PRAP being finalized. |
| Tile Leach Field | 5 | 5 | TLF | Sand bed used to receive and distribute treated industrial wastewater. | PA, SI, and RI completed. No FS required. PRAP being finalized. |
| Fuel Farm | 6 | Not applicable (no longer CERCLA) | None | Tank farm and fuel dispensing area. | Site transferred into the MCP program based on exhibiting only fuel-related issues. |
| Sewage Treatment Plant | 7 | 7 | STP | Wastewater treatment plant used primarily for domestic wastewater. | PA, SI, and RI completed. FS report being finalized. |
| Abandoned Bladder Tank Fuel Storage Area | 8 | 8 | ABTFSA | Area in which aboveground tanks temporarily were stored in support of aircraft refueling training operations. | PA, SI, and RI completed. No FS necessary. Completed No Action PRAP. Finalizing ROD. |
| Rubble Disposal Area | 2 | 9 | RDA | Steep sloping area adjacent to the RDA. | Combined with OU-2. No separate actions being performed. |
| Building 81 | 9 | 10 | None | Release of solvents from former motor pool. | Former MCP site moved to CERCLA program. Conducted *in situ* chemical oxidation pilot study for groundwater. Ongoing Work Plan development for RI. |
| Building 82 | 10 | 11 | None | Release of solvents from former aircraft hangar operations. | Former MCP site moved to CERCLA program. Ongoing Work Plan development for RI. |

NOTE:
PA = Preliminary Assessment.
SI = Site Inspection.
RI = Remedial Investigation (Phase I and II).
FS = Feasibility Study.
PRAP = Proposed Remedial Action Plan.
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act.
ROD = Record of Decision.
MCP = Massachusetts Contingency Plan.
OU = Operable Unit.

TABLE 2-2 SUMMARY OF HUMAN HEATH RISK ASSESSMENT RESULTS

| Scenario Evaluated | Media | Total Carcinogenic Risk (Statistical Chance) | Total Non-Carcinogenic Risk (Hazard Index) |
|---|---|---|---|
| **SITE WORKER (a)** | | | |
| Ingestion/Dermal Contact | Sediment | 1.4E-08 | 0.00029 |
| | Surface Water | 4.9E-08 | 0.0023 |
| Site Worker Total | | 6.3E-08 | 0.0025 |
| **TRESPASSING CHILD (a)** | | | |
| Ingestion/Dermal Contact | Sediment | 1.2E-07 | 0.007 |
| | Surface Water | 3.3E-07 | 0.052 |
| Trespassing Child Total | | 4.5E-07 | 0.059 |
| **CONSTRUCTION WORKER (a)** | | | |
| Ingestion/Dermal Contact | Subsurface Soil | 4.9E-08 | 0.0074 |
| Inhalation | Subsurface Soil | 2.23E-09 | 0.12 |
| Construction Worker Total | | 5.1E-08 | 0.13 |
| **FUTURE RESIDENT (a) (b)** | | | |
| Ingestion/Dermal Contact | Sediment | 2.9E-07 | 0.021 |
| Ingestion/Dermal Contact | Surface Water | 1.0E-06 | 0.17 |
| Ingestion/Dermal Contact | Drinking Water | NC | 6.8 (c) |
| Future Resident Total | | 1.3E-06 | 6.9 (c) |
| **FUTURE RECREATIONAL CHILD (1-6) (a)** | | | |
| Ingestion/Dermal Contact | Sediment | 2.6E-07 | 0.021 |
| Ingestion/Dermal Contact | Surface water | 9.2E-07 | 0.17 |
| Future Recreational Child (1-6) Total | | 1.2E-06 | 0.19 |

NOTES:
NC = Not calculated; not a chemical of potential concern in this medium or no dose-response value available.
The risk estimates shown are for Reasonable Maximum Exposure (RME) conditions.
(a) No risk results are presented for surface soil-ingestion/dermal contact/inhalation of particulates for these scenarios (see Figure 2-5) because no chemicals of potential concern (COPCs) in surface soil were retained beyond the COPC screening step of the Human Health Risk Assessment (HHRA).
(b) No risk results are presented for groundwater inhalation of volatile organic compounds (VOCs) while showering for this scenario (see Figure 2-5) because no VOCs in groundwater were retained beyond the COPC screening step of the HHRA.
(c) Within regional background conditions; see bullet 1 on page 2-8 for an explanation.

TABLE 2-3 SUMMARY OF CHEMICALS OF POTENTIAL CONCERN USED IN ECOLOGICAL RISK ASSESSMENT

| Exposure Medium | Chemical of Potential Concern | Minimum Concentration | Maximum Concentration | Units | Maximum Exposure Point Concentration | Units | Statistical Measure |
|---|---|---|---|---|---|---|---|
| Surface Soil | ***Inorganics*** | | | | | | |
| | Cyanide | 0.14 | 0.18 | ppm | 0.18 | ppm | 95%UCL |
| | Silver | 0.30 | 0.45 | ppm | 0.40 | ppm | 95%UCL |
| | ***Pesticides/Polychlorinated Biphenyls*** | | | | | | |
| | 4,4'-DDD | 1.40 | 17.0 | ppb | 17 | ppb | Max |
| | 4,4'-DDT | 1.9 | 58.0 | ppb | 58.0 | ppb | Max |
| | Endrin Ketone | 16 | 22 | ppb | 19 | ppb | 95%UCL |
| | ***Semivolatile Organic Compounds*** | | | | | | |
| | Benzo(a)pyrene | 23 | 31 | ppb | 31 | ppb | Max |
| | Benzo(b)fluoranthene | 53 | 61 | ppb | 61 | ppb | Max |
| | Benzo(k)fluoranthene | 51 | 86 | ppb | 86 | ppb | Max |
| | Bis(2-ethylhexyl)phthalate | 39 | 65 | ppb | 61 | ppb | 95%UCL |
| | Chrysene | 43 | 51 | ppb | 51 | ppb | Max |
| | Dibenz(a,h)anthracene | 10 | 10 | ppb | 10 | ppb | Max |
| | Fluoranthene | 54 | 69 | ppb | 69 | ppb | Max |
| | Phenanthrene | 46 | 50 | ppb | 50 | ppb | Max |
| | Pyrene | 60 | 69 | ppb | 69 | ppb | Max |
| | Total polycyclic aromatic hydrocarbons | 293 | 411 | ppb | 411 | ppb | Max |
| | ***Volatile Organic Compounds*** | | | | | | |
| | 1,1-Dichloroethene | 5 | 5 | ppb | 5 | ppb | Max |
| | 2-Butanone (MEK) | 8 | 15 | ppb | 14 | ppb | 95%UCL |
| | 2-Hexanone | 1 | 1 | ppb | 1 | ppb | Max |
| | Acetone | 101 | 200 | ppb | 154 | ppb | 95%UCL |
| | Methylene chloride | 7 | 8 | ppb | 7 | ppb | 95%UCL |
| Sediment | ***Inorganics*** | | | | | | |
| | Chromium | 6.8 | 34 | ppm | 34.1 | ppm | Max |
| | Copper | 7.7 | 105 | ppm | 105 | ppm | Max |
| | ***Pesticides/Polychlorinated Biphenyls*** | | | | | | |
| | 4,4'DDD | 21 | 52 | ppb | 52 | ppb | Max |
| | ***Semivolatiles*** | | | | | | |
| | Benzo(a)anthracene | 212 | 510 | ppb | 510 | ppb | Max |
| | Benzo(a)pyrene | 180 | 540 | ppb | 540 | ppb | Max |
| | Benzo(b)fluoranthene | 225 | 510 | ppb | 510 | ppb | Max |
| | Benzo(g,h,i)perylene | 140 | 360 | ppb | 360 | ppb | Max |
| | Benzo(k)fluoranthene | 205 | 440 | ppb | 440 | ppb | Max |
| | Carbazole | 100 | 100 | ppb | 100 | ppb | Max |
| | Chrysene | 170 | 490 | ppb | 490 | ppb | Max |
| | Dibenz(a,h)anthracene | 68 | 90 | ppb | 90 | ppb | Max |
| | Fluoranthene | 320 | 960 | ppb | 960 | ppb | Max |
| | Indeno(1,2,3-cd)pyrene | 150 | 290 | ppb | 290 | ppb | Max |
| | Phenanthrane | 110 | 1,000 | ppb | 1,000 | ppb | Max |
| | Phenol | 2,100 | 2,100 | ppb | 2,100 | ppb | Max |
| | Pyrene | 265 | 1,200 | ppb | 1,200 | ppb | Max |
| | Total polycyclic aromatic hydrocarbon | 2,392 | 5,383 | ppb | 5,383 | ppb | Max |

NOTES: ppm = Parts per million (mg/kg).
95% UCL = 95% Upper Confidence Limit.
ppb = Parts per billion (µg/kg for soil and sediment; µg/L for water).

TABLE 2-3 CONTINUED

| Exposure Medium | Chemical of Potential Concern | Minimum Concentration | Maximum Concentration | Units | Maximum Exposure Point Concentration | Units | Statistical Measure |
|---|---|---|---|---|---|---|---|
| Surface Water | ***Inorganics (Dissolved)*** | | | | | | |
| | Barium | 7.05 | 7.05 | ppb | 7.05 | ppb | Max |
| | Manganese | 2,315 | 2,315 | ppb | 2,315 | ppb | Max |
| | ***Inorganics (Total)*** | | | | | | |
| | Aluminum | 1,460 | 20,200 | ppb | 20,200 | ppb | Max |
| | Barium | 6.0 | 254 | ppb | 254 | ppb | Max |
| | Beryllium | 1.5 | 15 | ppb | 15 | ppb | Max |
| | Cobalt | 48 | 115 | ppb | 115 | ppb | Max |
| | Copper | 17 | 247 | ppb | 247 | ppb | Max |
| | Cyanide | 7.9 | 7.9 | ppb | 7.9 | ppb | Max |
| | Iron | 513 | 272,000 | ppb | 272,000 | ppb | Max |
| | Lead | 10 | 113 | ppb | 113 | ppb | Max |
| | Manganese | 786 | 1,670 | ppb | 1,670 | ppb | Max |
| | Selenium | 7.2 | 7.2 | ppb | 7.2 | ppb | Max |
| | Vanadium | 14 | 228 | ppb | 228 | ppb | Max |

# TABLE 2-4 SUMMARY OF ECOLOGICAL RISK ASSESSMENT MEASUREMENT AND ASSESSMENT ENDPOINTS – SURFACE SOIL, SEDIMENT, AND SURFACE WATER

| Potential Receptor | Sensitive Environment (Yes/No) | Sensitive Species (Yes/No)[a] | Exposure Route Evaluated | Assessment Endpoints | Measurement Endpoints | Findings |
|---|---|---|---|---|---|---|
| Vertebrate Wildlife | No | No | Ingestion of soil<br><br>Ingestion of prey | Sustainability of terrestrial small animal and avian populations which reflect the available habitat at the ABTFSA and can serve as a forage base for higher receptors. | • Sampling and analysis of surface soils, unfiltered surface water, and sediment from ABTFSA.<br>• Chemical measurements in excess of ingestion thresholds calculated from available toxicological data. | No evidence of potential ecological risk to vertebrate wildlife due to exposure to ABTFSA soil. |
| Terrestrial Invertebrates | No | No | Direct contact with soil | Sustainability of terrestrial invertebrate which reflects the available habitat at the ABTFSA and can serve as a forage base for higher receptors. | • Comparison of surface soil COPCs concentrations to soil screening benchmarks.<br>• Laboratory toxicity of earthworms. | No evidence of potential ecological risk to invertebrate wildlife due to exposure to ABTFSA soil. |
| Terrestrial Plants | No | No | Direct contact | Sustainability of terrestrial plant community that reflects the available habitat at the ABTFSA and can serve as a forage base for higher receptors. | • Comparison of surface soil COPCs concentrations to soil screening benchmarks.<br>• Laboratory toxicity of plants. | No evidence of potential ecological risk to plants due to exposure to ABTFSA soil. |
| Benthic Invertebrates | No | No | Direct contact with sediment and surface water | Sustainability of healthy and well-balanced benthic invertebrate community in the ABTFSA drainage ditches. | • Comparison of sediment and surface water COPC concentrations to state benchmarks and water quality criteria.<br>• Benthic toxicity tests.<br>• Evaluation of simultaneously extracted metals (SEM)/acid volatile sulfides (AVS) relationships to indicate potential bioavailability of divalent metals. | Midge and amphipod growth endpoints were not significantly different from controls. Survival was slightly reduced when compared to laboratory control and site reference sediment. However, these reductions were likely not COPC-related. No evidence of potential ecological risk to benthic invertebrates due to exposure to ABTFSA sediment or surface water. |

NOTES:
(a) One state-listed threatened species, the Northern Harrier, occurs at and in the vicinity of the site; however, it is unlikely that they would use the terrestrial upland or palustrine wetlands in and around the site for nesting. Further, it is not anticipated that this site will pose unacceptable ecological risk to this species. Future site activities, however, should adhere to state-mandated avoidance, protection, and mitigation measures based on the potential presence of this species. Two state-listed "species of special concern," the spotted turtle and the eastern box turtle, are known to occur at the Naval Air Station South Weymouth; however, despite extensive surveys, neither species has been located at or in the vicinity of the ABTFSA.

ABTFSA = Abandoned Bladder Tank Fuel Storage Area.
COPC = Chemical of Potential Concern.

# PART 3—RESPONSIVENESS SUMMARY

## I. STAKEHOLDER ISSUES AND NAVY RESPONSES

Verbal comments were received from one person during the public hearing on the Proposed Plan for OU-8, the ABTFSA. No written comments were received during the public comment period. A copy of the transcript for the public hearing is provided as Appendix E.2. Comment responses are provided in Section III of this Responsiveness Summary.

## II. TECHNICAL AND LEGAL ISSUES

The one comment received during the public hearing was in agreement with the No Action decision.

Therefore, the Navy and EPA believe that there is sufficient technical basis to proceed with the No Action ROD for the ABTFSA. By proceeding with the ROD, the Navy has completed all required CERCLA actions/investigations at the site.

## III. COMMENT RESPONSES

Note that the following comment is paraphrased. Refer to the transcript (Appendix E.2) for the complete version of the comment recorded during the public hearing held on 10 October 2002.

***Comment from James Cunningham, Citizen of Weymouth and the Restoration Advisory Board Community Co-Chair***—Mr. Cunningham indicated his support of the No Action decision but requested assurance that the area will remain as open space.

***Response***—The Navy appreciates the public's support of the No Action decision. The site condition is suitable for unlimited use and unrestricted exposure (i.e., open space or other uses). The future zoning of the site property is a matter for the townships. The current zoning plan for the redevelopment, which specifies open space re-use for the property containing the ABTFSA, has been approved by the towns and is still in effect. In order to change any zoning in the re-use plan, the proponent (i.e., the redevelopment authority) would have to reopen public hearings in Weymouth, Abington, and Rockland, and receive a two-thirds approval vote by each town.

# APPENDIX A: MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION LETTER OF CONCURRENCE

Refer to attached copy.

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

ELLEN ROY HERZFELDE
Secreta:

EDWARD P. KUNC
Acting Commissione

Mr. Richard Cavagnero
Director, Site Remediation and Restoration
U.S. Environmental Protection Agency
JFK Building
Boston, MA 02203-2211

Re: Record of Decision
Abandoned Bladder Tank Site
Former South Weymouth NAS
RTN 3-2621
March 21, 2003

Dear Mr. Cavagnero:

The Department of Environmental Protection has reviewed the *Record of Decision for Operable Unit 8, Abandoned Bladder Tank Fuel Storage Area, Naval Air Station South Weymouth*, dated February 2003. Based on this review, the Department agrees that no further action is necessary at this site to protect human health, welfare, and the environment, and concurs with the No Action decision.

If you have any questions or comments, please contact David Chaffin, Project Manager (617 348-4005) or Anne Malewicz, Federal Facilities Section Chief (617 292-5659).

Very truly yours,

Deirdre C. Menoyo

Deirdre C. Menoyo
Assistant Commissioner
Bureau of Waste Site Cleanup

cc: D. Barney, S. Weymouth CSO
P. Marajh-Whittemore, USEPA
Executive Director, SSTTDC
RAB Members
E. Worrall, MADEP-Boston
S. Johnson, MADEP-Wilmington

## APPENDIX B: REFERENCES

EA Engineering, Science, and Technology. 2002. Site Management Plan (schedule update), Naval Air Station South Weymouth, Weymouth, Massachusetts. October.

Naval Air Station Planning Committee. 1998. Zoning and Land Use By-Laws for the Naval Air Station South Weymouth. 24 March.

Tetra Tech NUS, Inc. 2002. Phase II Remedial Investigation, Abandoned Bladder Tank Fuel Storage Area, Naval Air Station South Weymouth, Weymouth, Massachusetts. Engineering Field Activity Northeast, Naval Facilities Engineering Command.

U.S. Environmental Protection Agency (U.S. EPA). 1989. Risk Assessment Guidance for Superfund. Volume 1. Human Health Evaluation Manual (Part A). Interim Final. Office of Emergency and Remedial Response, Washington, D.C. EPA/540/1-89/002. December.

U.S. EPA. 1991a. Risk Assessment Guidance for Superfund. Volume I. Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals). Interim. Office of Emergency and Remedial Response, Washington, D.C. Publication 9285.7-0C. December.

U.S. EPA. 1991c. Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. OSWER Directive 9285.6-03. Interim Final. Office of Emergency and Remedial Response, Toxics Integration Branch, Washington, D.C.

U.S. EPA. 1992a. Supplemental Guidance to RAGS: Calculating the Concentration Term. OSWER Directive 9285.7-081. Office of Solid Waste and Emergency Response.

U.S. EPA. 1992b. Guidance for Data Usability in Risk Assessment (Part A). Office of Emergency and Remedial Response, Washington, D.C. Publication 9285.7-09A.

U.S. EPA. 1997a. Exposure Factors Handbook. Volumes I-III. Office of Health and Environmental Assessment, Washington, D.C. PB97-921199. August.

U.S. EPA. 1997b. Health Effects Assessment Summary Tables (HEAST). FY 1997 Update. Office of Solid Waste and Emergency Management. EPA/600/P-95/002Fa. August.

U.S. EPA. 1999. A Guide to Preparing Superfund Proposed Plans, Records of Decision, and other Remedy Selection Decision Documents. Office of Solid Waste and Emergency Response. EPA/540/R-98/031. OSWER 9200.1-23P. PB98-963241. July.

U.S. EPA. 2000. Integrated Risk Information System (IRIS). Environmental Criteria and Assessment Office. U.S. Environmental Protection Agency, Cincinnati, Ohio. [URL:http||www.epa.gov/ngispgm3/iris].

# APPENDIX C: GLOSSARY

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**—A federal law passed in 1980 and amended in 1986 by the Superfund Amendments and Reauthorization Act. The Act created a special tax that goes into a Trust Fund, commonly known as Superfund, to investigate and clean up abandoned or uncontrolled hazardous waste sites. Navy compliance with CERCLA/Superfund Amendments and Reauthorization Act (see Installation Restoration Program definition) is funded by the Department of Defense under the Defense Environmental Restoration Act.

**Chemicals of Concern**—Compounds and elements identified as a possible source of risk, based upon a comparison between compound concentration and established screening levels (e.g., Federal Primary Drinking Water Standards).

**Excess Lifetime Cancer Risk Range**—Upper bound probability of an individual developing cancer as a result of a lifetime of exposure to a particular level of a potential carcinogen. The predicted cancer risk level is compared against an acceptable range of $1 \times 10^{-4}$ to $1 \times 10^{-6}$.

**Hazard Index**—A measure of the potential for toxic (non-cancer related) effects from exposure to non-carcinogenic chemicals. A Hazard Index of 1 or less is considered an acceptable risk level by the U.S. Environmental Protection Agency.

**Installation Restoration Program**—A component of the Defense Environmental Restoration Act created under CERCLA regulations and funded by the Department of Defense. The purpose of the Program is to identify, assess, characterize, and clean up or control contamination from past hazardous waste disposal operation and hazardous material spills at military activities.

**National Priorities List**—U.S. Environmental Protection Agency's list of sites for priority cleanup under the Superfund program.

**Operable Unit**—Operable units are site management tools that define discrete steps toward comprehensive actions, based on geographical portions of a site, specific site problems, initial phases of action, or any set of actions performed over time or concurrently at different parts of the site.

**Polycyclic Aromatic Hydrocarbons**—Chemical compounds such as benzo(a)pyrene, naphthalene, anthracene, and phenanthrene, which are usually byproducts of incomplete combustion.

**Proposed Plan**—A plan for site cleanup that is made available to the public for comment.

**Remedial Investigation**—A summary report of the information collected on the nature and extent of contamination and the problems that the contamination could potentially cause (including assessment of human health and ecological risks) at a CERCLA site.

# APPENDIX D: ADMINISTRATIVE RECORD INDEX

| File No. | Vol. | Document No. | Document Type[a] | Document Title | Document Date | Document Author | Document Recipient | Document Location | Operable Unit |
|---|---|---|---|---|---|---|---|---|---|
| **1.0 SITE ASSESSMENT** | | | | | | | | | |
| **1.2 Preliminary Assessment** | | | | | | | | | |
| 1.2 | | 1.2-1 | R | Preliminary Assessment, NAS South Weymouth, Massachusetts | 1988 | Argonne National Laboratory | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| **1.3 Site Inspection/Investigation** | | | | | | | | | |
| 1.3 | | 1.3-1 | R | Work Plan Site Investigation at Naval Air Station South Weymouth, Massachusetts | 3/90 | Baker Environmental Inc. | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 1.3 | | 1.3-2 | R | Site Investigation at Naval Air Station South Weymouth, Massachusetts | 12/91 | Baker Environmental Inc. | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| **3.0 REMEDIAL INVESTIGATION** | | | | | | | | | |
| **3.2 Sampling and Analysis Data** | | | | | | | | | |
| 3.2 | | 3.2-1 | R | Data Validation Addenda Remedial Investigation South Weymouth, Massachusetts Addenda Volumes I, II, III, IV, V, and VI | 1/97 | Brown and Root Environmental (ENSR) | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 3.2 | | 3.2-2 | R | Final Summary Report of Background Data Summary Statistics for Naval Air Station South Weymouth, Massachusetts | 2/00 | Stone & Webster | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10 |
| **3.6 Remedial Investigation Reports** | | | | | | | | | |
| 3.6 | | 3.6-1 | R | Phase I Remedial Investigation, Naval Air Station South Weymouth, Massachusetts Volumes I, II, III, and IV | 7/98 | Brown and Root Environmental (ENSR) | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 3.6 | | 3.6-2 | R | Turtle Investigation Report for CY 1999 | 4/00 | ENSR | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10 |
| 3.6 | | 3.6-4 | R | Basewide Groundwater Flow Assessment Phase II Remedial Investigation | 12/00 | Tetra Tech (ENSR) | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10 |

(a) R = Report; L = Letter.

NOTE: EFANE = Engineering Field Activity Northeast.
EPA = (U.S.) Environmental Protection Agency.
ABTFSA = Abandoned Bladder Tank Fuel Storage Area.

| File No. | Vol. | Document No. | Document Type[a] | Document Title | Document Date | Document Author | Document Recipient | Document Location | Operable Unit |
|---|---|---|---|---|---|---|---|---|---|
| **3.6 Remedial Investigation Reports (continued)** | | | | | | | | | |
| 3.6 | | 3.6-8 | R | Turtle Investigation Report for CY 2000 | 4/01 | ENSR | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10 |
| 3.6 | | 3.6-12 | R | Potential Effects of Elevated pH Values on the Representativeness of Groundwater Samples, NAS South Weymouth (secondary document, supplement to Phase II RI) | 2/02 | ENSR | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10, 11 |
| 3.6 | | 3.6-13 | R | Phase II Remedial Investigation, Abandoned Bladder Tank Fuel Storage Area, NAS South Weymouth, Weymouth, Massachusetts (no appendices were reissued) | 3/02 | Tetra Tech (ENSR) | U.S. Department of the Navy | EFANE | 8 |
| 3.6 | | 3.6-14 | R | Phase II Remedial Investigation Appendices (AD-A & RI), ABTFSA, NAS South Weymouth | 12/00 | Tetra Tech (ENSR) | U.S. Department of the Navy | EFANE | 8 |
| 3.6 | | 3.6-15 | R | Phase II Remedial Investigation Appendices (HH & ECO), ABTFSA, NAS South Weymouth | 4/01 | Tetra Tech (ENSR) | U.S. Department of the Navy | EFANE | 8 |
| **3.7 Work Plans and Progress Reports** | | | | | | | | | |
| 3.7 | | 3.7-1 | R | Final Remedial Investigation Work Plan, Naval Air Station South Weymouth, Massachusetts | 7/95 | Brown and Root Environmental (ENSR) | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 3.7 | | 3.7-2 | R | Final Remedial Investigation Work Plan (Phase I) Field Sampling Plan, Quality Assurance Project Plan, Health and Safety Plan Volumes I and II | 11/28/95 | Brown and Root Environmental (ENSR) | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 3.7 | | 3.7-3 | L | Ecological Technical Memorandum Work Plan, Naval Air Station South Weymouth, Massachusetts | 7/98 | Brown and Root Environmental (ENSR) | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 3.7 | | 3.7-4 | R | Phase II Remedial Investigation Work Plan, NAS South Weymouth, Massachusetts (7 volumes including appendix) | 4/99 | Tetra Tech (ENSR) | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |

| File No. | Vol. | Document No. | Document Type[a] | Document Title | Document Date | Document Author | Document Recipient | Document Location | Operable Unit |
|---|---|---|---|---|---|---|---|---|---|
| **3.9 Health Assessments** | | | | | | | | | |
| 3.9 | | 3.9-1 | R | Public Health Assessment for Naval Air Station South Weymouth, Massachusetts CERCLIS No. MA2170022022 | 3/98 | U.S. Department of Health and Human Services | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 3.9 | | 3.9-2 | R | Public Health Assessment for Naval Air Station South Weymouth, Massachusetts CERCLIS No. MA2170022022 | 9/99 | U.S. Department of Health and Human Services | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 3.9 | | 3.9-3 | R | Public Health Assessment for Naval Air Station South Weymouth, Massachusetts CERCLIS No. MA2170022022 | 8/30/01 | U.S. Department of Health and Human Services | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| **4.0 FEASIBILITY STUDY** | | | | | | | | | |
| **4.9 Proposed Plans for Selected Remedial Action** | | | | | | | | | |
| 4.9 | | 4.9-2 | R | Proposed Plan, Operable Unit 8 – ABTFSA, Naval Air Station South Weymouth, Weymouth, Massachusetts | 10/5/02 | U.S. Department of the Navy | Public | EFANE | 8 |
| **5.0 RECORD OF DECISION** | | | | | | | | | |
| **5.3 Responsiveness Summaries** | | | | | | | | | |
| 5.3 | | 5.3-1 | R | Transcript of the Public Hearing on the Proposed Plan for the ABTFSA (included as Appendix E.2 of the ABTFSA Record of Decision) | 10/10/02 | Public | U.S. Department of the Navy | EFANE | 8 |
| 5.3 | | 5.3-2 | R | Responsiveness Summary (included as Part 3, the Responsiveness Summary, of the ABTFSA Record of Decision) | 3/03 | U.S. Department of the Navy | Public | EFANE | 8 |
| **5.4 Record of Decision** | | | | | | | | | |
| 5.4 | | 5.4-1 | R | Final Record of Decision Operable Unit 8 ABTFSA Naval Air Station South Weymouth, Massachusetts | 3/03 | U.S. Department of the Navy and EPA | Public | EFANE | 8 |
| **10.0 ENFORCEMENT/NEGOTIATION** | | | | | | | | | |
| **10.16 Federal Facility Agreements** | | | | | | | | | |
| 10.16 | | 10.16-1 | L | Federal Facility Agreement for South Weymouth Naval Air Station National Priorities List Site | 4/00 | EPA | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |

| File No. | Vol. | Document No. | Document Type[a] | Document Title | Document Date | Document Author | Document Recipient | Document Location | Operable Unit |
|---|---|---|---|---|---|---|---|---|---|
| **13.0 COMMUNITY RELATIONS** | | | | | | | | | |
| **13.2 Community Relations Plan** | | | | | | | | | |
| 13.2 | | 13.2-1 | R | Community Relations Plan Naval Air Station South Weymouth, Massachusetts | 7/98 | U.S. Department of the Navy | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| **13.4 Public Meetings/Hearings** | | | | | | | | | |
| 13.4 | | 13.4-1 | | Restoration Advisory Board Workshop Guidebook | 7/94 | EPA | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 13.4 | | 13.4-4 | | Public Notice: Availability of the Proposed Plan, and Notification of Public Meeting and Comment Period | 10/5/02 | EA Engineering, Science, and Technology | Public | EFANE | 8 |
| 13.4 | | 13.4-6 | | Public Notice: Notification of Restoration Advisory Board Meetings (Monthly) | 1995-2003 | EA Engineering, Science, and Technology | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10, 11 |
| 13.4 | | 13.4-7 | | Restoration Advisory Board Meeting Minutes (Monthly) | 1995-2003 | U.S. Department of the Navy | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10, 11 |
| **13.5 Fact Sheets/Information Updates** | | | | | | | | | |
| 13.5 | | 13.5-1 | | U.S. Navy Fact Sheet No. 1, NAS South Weymouth | 12/96 | ENSR | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 13.5 | | 13.5-2 | | The Former Naval Air Station South Weymouth | 2/98 | U.S. Department of the Navy | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 13.5 | | 13.5-3 | | Environmental Update, NAS South Weymouth | 3/98 | North and South Rivers Watershed Association | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 13.5 | | 13.5-4 | | Groundwater Flow NAS South Weymouth, Massachusetts | 10/98 | ENSR | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 13.5 | | 13.5-6 | | Environmental Cleanup Activities NAS South Weymouth Fact Sheet | 4/00 | ENSR | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 13.5 | | 13.5-7 | | Arsenic Information from the Former Naval Air Station South Weymouth, Massachusetts Fact Sheet | 11/01 | ENSR | Public | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |

| File No. | Vol. | Document No. | Document Type[a] | Document Title | Document Date | Document Author | Document Recipient | Document Location | Operable Unit |
|---|---|---|---|---|---|---|---|---|---|
| **13.6 Mailing List** | | | | | | | | | |
| 13.6 | | 13.6-1 | | Community Relations Mailing List: State, Federal and Local Agencies (including Media and Public Libraries) | N/A | U.S. Department of the Navy | N/A | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10, 11 |
| 13.6 | | 13.6-2 | | Community Relations Mailing List: Other Parties (e.g., general public) – CONFIDENTIAL (due to potential Privacy Act violations) | N/A | U.S. Department of the Navy | N/A | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10, 11 |
| **17.0 SITE MANAGEMENT RECORDS** | | | | | | | | | |
| **17.6 Site Management Plans and Reviews** | | | | | | | | | |
| 17.6 | | 17.6-1 | R | Site Management Plan Naval Air Station South Weymouth, Massachusetts | 10/99 | EA Engineering, Science, and Technology | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 17.6 | | 17.6-2 | R | Site Management Plan Revision 1.0 Naval Air Station South Weymouth, Massachusetts | 10/00 | EA Engineering, Science, and Technology | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9 |
| 17.6 | | 17.6-3 | R | Site Management Plan Revision 2.0 Naval Air Station Weymouth, Massachusetts | 11/01 | EA Engineering, Science, and Technology | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10 |
| 17.6 | | 17.6-4 | L | Site Management Plan (schedule update) Naval Air Station Weymouth, Massachusetts | 10/31/02 | EA Engineering, Science, and Technology | U.S. Department of the Navy | EFANE | 1, 2, 3, 4, 5, 7, 8, 9, 10, 11 |

# APPENDIX E.1: PUBLIC COMMENTS ON THE PROPOSED PLAN FOR THE ABANDONED BLADDER TANK FUEL STORAGE AREA

Other than the public hearing (see Appendix E.2), no comments on the Proposed Plan were received during the public comment period.

# APPENDIX E.2: TRANSCRIPT OF PUBLIC HEARING ON THE PROPOSED PLAN FOR THE ABANDONED BLADDER TANK FUEL STORAGE AREA

Refer to attached copy.

# PROPOSED PLAN FOR OPERABLE UNIT 8
# THE ABANDONED BLADDER TANK FUEL STORAGE AREA
# AT THE FORMER NAVAL AIR STATION SOUTH WEYMOUTH,
# SOUTH WEYMOUTH, MASSACHUSETTS

**PUBLIC HEARING**

Naval Air Station, South Weymouth
Conference Center, Building 122
Shea Memorial Drive
South Weymouth, Massachusetts
Thursday, October 10, 2002
8:09 p.m. to 8:25 p.m.

**BEFORE: MARK KRIVANSKY, NAVY PROJECT MANAGER.**

*Leavitt Reporting, Inc.*

*86 Washington Street*
*Weymouth, MA 02188-1704*

*Tel. 781-335-6791*
*Fax: 781-335-7911*
*leavittreporting@att.net*

*Hearings ♦ Conferences ♦ Legal Proceedings*

**P R O C E E D I N G S**

MR. KRIVANSKY: Good evening to everybody. This is a Public Hearing for the Proposed Plan for Operable Unit 8, the Abandoned Bladder Tank Fuel Storage Area at the former Naval Air Station South Weymouth.

The Navy is holding this formal Public Hearing from -- it is approximately nine minutes after eight, until all comments are heard this evening. From this Hearing, an official transcript will be entered into the official record. I'm going to read the very first paragraph of the Proposed Plan, and then I will ask anyone who would like to go on the official record, to step up to the podium:

"The Proposed Plan for the Bladder Tank -- Abandoned Bladder Tank Fuel Storage Area. This proposed plan has been prepared in accordance with federal law to present the Navy's proposed No Action decision for the Abandoned Bladder Tank Fuel Storage Area, which is Operable Unit 8 at the former Naval Air Station South Weymouth in Weymouth,

Massachusetts.

"The Navy has prepared this Proposed Plan after careful study of Operable Unit 8 in accordance with federal law and in coordination with federal and state environmental regulatory agencies. This document provides the public with information regarding this plan and describes how to become involved in the decision-making process."

This evening is an opportunity to go on the official record with your oral comments. What I would ask is for anyone who wishes, to step up to the podium and speak into the microphone. The comments that you state will be recorded. We also ask you to give us your name and to spell that also for the stenographer so that we can be sure that everyone who is responding will have their comments responded to appropriately with the right person.

I ask anyone, at this time, to step up. Again, there will be no responses this evening. So when you are completed, please sit down and the next person may go. So please feel free to step forward.

MR. CUNNINGHAM: Do I understand that you are going to respond to me so, therefore, you'll

have to have my address?

MR. KRIVANSKY: Well, actually, we have your address, Jim. But your name would be great, and if you could spell it for the stenographer.

MR. CUNNINGHAM: All right. I am James Cunningham, C-U-N-N-I-N-G-H-A-M, and I live in Weymouth. And I agree that the No Action is suitable for my purposes in that no objectionable pollutants have been found underneath the Bladder Tanks. However, I would like to be assured that this area will be remaining as open space. As I understand, it's for recreational use.

I don't know just how much influence this Hearing has on that particular usage, but it's my desire to see as much as we can of the air base to remain as open space while developing those areas which previously had buildings on them and so forth. In other words, were paved, as the developable parts of the base. So those are my comments.

MR. KRIVANSKY: Thanks, Jim.

Anybody else have a comment? We'll wait a few minutes. I don't anticipate any late arrivals, but we'll be here for a few more minutes.

If anyone else has anything to say, please step forward.

(Pause.)

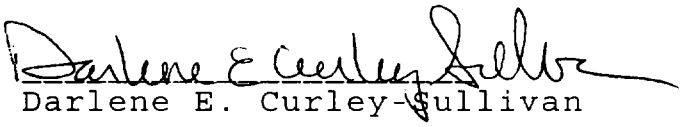
All right. If there are no further comments to go along with Mr. Cunningham's, I'd like to thank everybody for participating this evening and to remind everyone that this is the second CERCLA site. There are a few more to come. So please keep involved with what's going on here in South Weymouth, and we look forward to seeing you at the next one. Thanks to everybody. Good night.

(Whereupon the Hearing concluded at 8:23 p.m.)

CERTIFICATE

Commonwealth of Massachusetts
Suffolk, ss.

I, Darlene E. Curley-Sullivan, a Notary Public in and for the Commonwealth of Massachusetts, do hereby certify that the foregoing record, pages 1 through 6, inclusive, is a complete, accurate and true transcription of my stenographic notes taken in the aforementioned matter to the best of my skills and ability.



Darlene E. Curley-Sullivan

My Notary Public expires:
August 13, 2004

PROPOSED PLAN FOR OPERABLE UNIT 8
THE ABANDONED BLADDER TANK FUEL STORAGE AREA
AT THE FORMER NAVAL AIR STATION SOUTH WEYMOUTH,
SOUTH WEYMOUTH, MASSACHUSETTS

PUBLIC HEARING
Naval Air Station, South Weymouth
Conference Center, Building 122
Shea Memorial Drive
South Weymouth, Massachusetts
Thursday, October 10, 2002
8:09 p.m. to 8:25 p.m.

BEFORE: MARK KRIVANSKY, NAVY PROJECT MANAGER.

PROCEEDINGS

MR. KRIVANSKY: Good evening to everybody. This is a Public Hearing for the Proposed Plan for Operable Unit 8, the Abandoned Bladder Tank Fuel Storage Area at the former Naval Air Station South Weymouth.

The Navy is holding this formal Public Hearing from -- it is approximately nine minutes after eight, until all comments are heard this evening. From this Hearing, an official transcript will be entered into the official record. I'm going to read the very first paragraph of the Proposed Plan, and then I will ask anyone who would like to go on the official record, to step up to the podium:

"The Proposed Plan for the Bladder Tank -- Abandoned Bladder Tank Fuel Storage Area. This proposed plan has been prepared in accordance with federal law to present the Navy's proposed No Action decision for the Abandoned Bladder Tank Fuel Storage Area, which is Operable Unit 8 at the former Naval Air Station South Weymouth in Weymouth, Massachusetts.

"The Navy has prepared this Proposed Plan after careful study of Operable Unit 8 in accordance with federal law and in coordination with federal and state environmental regulatory agencies. This document provides the public with information regarding this plan and describes how to become involved in the decision-making process."

This evening is an opportunity to go on the official record with your oral comments. What I would ask is for anyone who wishes, to step up to the podium and speak into the microphone. The comments that you state will be recorded. We also ask you to give us your name and to spell that also for the stenographer so that we can be sure that everyone who is responding will have their comments responded to appropriately with the right person.

I ask anyone, at this time, to step up. Again, there will be no responses this evening. So when you are completed, please sit down and the next person may go. So please feel free to step forward.

MR. CUNNINGHAM: Do I understand that you are going to respond to me so, therefore, you'll have to have my address?

MR. KRIVANSKY: Well, actually, we have your address, Jim. But your name would be great, and if you could spell it for the stenographer.

MR. CUNNINGHAM: All right. I am James Cunningham, C-U-N-N-I-N-G-H-A-M, and I live in Weymouth. And I agree that the No Action is suitable for my purposes in that no objectionable pollutants have been found underneath the Bladder Tanks. However, I would like to be assured that this area will be remaining as open space. As I understand, it's for recreational use.

I don't know just how much influence this Hearing has on that particular usage, but it's my desire to see as much as we can of the air base to remain as open space while developing those areas which previously had buildings on them and so forth. In other words, were paved, as the developable parts of the base. So those are my comments.

MR. KRIVANSKY: Thanks, Jim.

Anybody else have a comment? We'll wait a few minutes. I don't anticipate any late arrivals, but we'll be here for a few more minutes.

If anyone else has anything to say, please step forward.

(Pause.)

All right. If there are no further comments to go along with Mr. Cunningham's, I'd like to thank everybody for participating this evening and to remind everyone that this is the second CERCLA site. There are a few more to come. So please keep involved with what's going on here in South Weymouth, and we look forward to seeing you at the next one. Thanks to everybody. Good night.

(Whereupon the Hearing concluded at 8:23 p.m.)

CERTIFICATE

Commonwealth of Massachusetts
Suffolk, ss.

I, Darlene E. Curley-Sullivan, a Notary Public in and for the Commonwealth of Massachusetts, do hereby certify that the foregoing record, pages 1 through 6, inclusive, is a complete, accurate and true transcription of my stenographic notes taken in the aforementioned matter to the best of my skills and ability.

_____

Darlene E. Curley-Sullivan

My Notary Public expires:
August 13, 2004

-1-

1 [1] 6:9
10 [1] 1:10
122 [1] 1:7
13 [1] 6:21

-2-

2002 [1] 1:10
2004 [1] 6:21

-6-

6 [1] 6:10

-8-

8 [4] 1:1 2:6 2:22 3:3
8:09 [1] 1:11
8:23 [1] 5:13
8:25 [1] 1:11

-A-

Abandoned [4] 1:2 2:6 2:18 2:21
ability [1] 6:13
accordance [2] 2:19 3:4
accurate [1] 6:10
Action [2] 2:21 4:7
address [1] 4:3
aforementioned [1] 6:12
Again [1] 3:19
agencies [1] 3:5
agree [1] 4:7
air [5] 1:3 1:6 2:7 2:23 4:15
along [1] 5:5
anticipate [1] 4:22
appropriately [1] 3:17
area [5] 1:2 2:7 2:18 2:22 4:10
areas [1] 4:16
arrivals [1] 4:23
assured [1] 4:10
August [1] 6:21

-B-

base [2] 4:15 4:19
become [1] 3:7
best [1] 6:12
Bladder [6] 1:2 2:6 2:17 2:18 2:21 4:9
Building [1] 1:7
buildings [1] 4:17

-C-

C-U-N-N-I-N-G-H-A-M [1] 4:6
careful [1] 3:3
Center [1] 1:7
CERCLA [1] 5:7
certify [1] 6:9
comment [1] 4:21
comments [6] 2:11 3:10 3:12 3:16 4:19 5:5
Commonwealth [2] 6:3 6:8
complete [1] 6:10
completed [1] 3:20
concluded [1] 5:12
Conference [1] 1:7
coordination [1] 3:4
Cunningham [3] 3:22 4:5 4:6
Cunningham's [1] 5:5
Curley-Sullivan [2] 6:7 6:17

-D-

Darlene [2] 6:7 6:17
decision [1] 2:21
decision-making [1] 3:8
describes [1] 3:7
desire [1] 4:15
developable [1] 4:18
developing [1] 4:16
document [1] 3:6
down [1] 3:20
Drive [1] 1:8

-E-

E [2] 6:7 6:17
eight [1] 2:11
entered [1] 2:13
environmental [1] 3:5
evening [5] 2:4 2:12 3:9 3:19 5:6
everybody [3] 2:5 5:6 5:11
expires [1] 6:21

-F-

federal [3] 2:20 3:4 3:5
few [3] 4:22 4:23 5:8
first [1] 2:14
foregoing [1] 6:9
formal [1] 2:9
former [3] 1:3 2:7 2:22
forth [1] 4:17
forward [3] 3:21 5:2 5:10
found [1] 4:9
free [1] 3:21
Fuel [4] 1:2 2:7 2:18 2:21

-G-

Good [2] 2:4 5:11
great [1] 4:3

-H-

heard [1] 2:11
Hearing [6] 1:5 2:5 2:10 2:12 4:14 5:12
hereby [1] 6:9
holding [1] 2:9

-I-

inclusive [1] 6:10
influence [1] 4:13
information [1] 3:6
involved [2] 3:8 5:9

-J-

James [1] 4:5
Jim [2] 4:3 4:20

-K-

keep [1] 5:8
KRIVANSKY [4] 1:12 2:4 4:2 4:20

-L-

late [1] 4:22
law [2] 2:20 3:4
live [1] 4:6
look [1] 5:10

-M-

MANAGER [1] 1:12
MARK [1] 1:12
Massachusetts [4] 1:4 1:9 6:3 6:8
matter [1] 6:12
may [1] 3:21
Memorial [1] 1:8
microphone [1] 3:12
minutes [3] 2:10 4:22 4:23

-N-

name [2] 3:14 4:3
Naval [4] 1:3 1:6 2:7 2:23
Navy [3] 1:12 2:9 3:2
Navy's [1] 2:20
next [2] 3:20 5:10
night [1] 5:11
nine [1] 2:10
Notary [2] 6:7 6:21
notes [1] 6:11

-O-

objectionable [1] 4:8
October [1] 1:10
official [4] 2:12 2:13 2:16 3:10
one [1] 5:10
open [2] 4:11 4:16
Operable [4] 1:1 2:6 2:22 3:3
opportunity [1] 3:9
oral [1] 3:10

-P-

p.m [3] 1:11 1:11 5:13
pages [1] 6:9
paragraph [1] 2:14
participating [1] 5:6
particular [1] 4:14
parts [1] 4:18
Pause [1] 5:3
paved [1] 4:18
person [2] 3:17 3:21
plan [7] 1:1 2:6 2:15 2:17 2:19 3:3 3:7
podium [2] 2:16 3:12
pollutants [1] 4:8
prepared [2] 2:19 3:2
present [1] 2:20
previously [1] 4:17
process [1] 3:8
PROJECT [1] 1:12
proposed [7] 1:1 2:5 2:14 2:17 2:19 2:20 3:2
provides [1] 3:6
public [6] 1:5 2:5 2:9 3:6 6:8 6:21
purposes [1] 4:8

-R-

read [1] 2:14
record [4] 2:13 2:16 3:10 6:9
recorded [1] 3:13
recreational [1] 4:12
regarding [1] 3:7
regulatory [1] 3:5
remain [1] 4:16
remaining [1] 4:11
remind [1] 5:7
respond [1] 3:23
responded [1] 3:16
responding [1] 3:16
responses [1] 3:19
right [3] 3:17 4:5 5:4

-S-

second [1] 5:7
see [1] 4:15
seeing [1] 5:10
Shea [1] 1:8
sit [1] 3:20
site [1] 5:8
skills [1] 6:12
South [7] 1:3 1:4 1:6 1:9 2:8 2:23 5:9
space [2] 4:11 4:16
speak [1] 3:12
spell [2] 3:14 4:4
ss [1] 6:3
state [2] 3:5 3:13
Station [4] 1:3 1:6 2:7 2:23
stenographer [2] 3:15 4:4
stenographic [1] 6:11
step [4] 2:16 3:11 3:18 3:21
Storage [4] 1:2 2:7 2:18 2:22
study [1] 3:3
Suffolk [1] 6:3
suitable [1] 4:7

-T-

Tank [5] 1:2 2:6 2:18 2:18 2:21
Tanks [1] 4:9
thank [1] 5:6
Thanks [2] 4:20 5:11
therefore [1] 3:23
through [1] 6:10

**Thursday** [1] 1:10
**transcript** [1] 2:12
**transcription** [1] 6:11
**true** [1] 6:11

-U-

**underneath** [1] 4:9
**understand** [2] 3:22 4:11
**Unit** [4] 1:1 2:6 2:22 3:3
**up** [3] 2:16 3:11 3:18
**usage** [1] 4:14

-W-

**wait** [1] 4:22
**Weymouth** [9] 1:3 1:4 1:6 1:9 2:8 2:23 2:23 4:7 5:9
**wishes** [1] 3:11
**words** [1] 4:18